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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,412	12/29/2003	Jue-Jei Sheu	03242-UCS	7544

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EXAMINER

JOLLEY, KIRSTEN

ART UNIT PAPER NUMBER

1762

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,412

Applicant(s)

SHEU ET AL.

Examiner

Kirsten C. Jolley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-18 is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 2,3,6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-5, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/080931 A1 in view of EP 0623658 A2 and Lebacq (US 5,139,812).

WO '931 discloses a method of marking a solid article with an indelible ink containing a nucleic acid. WO '931 teaches that the marking liquid comprises indelible ink mixed with 1 ml of DNA in buffer (page 10, lines 11-19). WO '931 states that an exemplary ink is disclosed in EP-A-0623658. EP '658 teaches an ink composition comprising diphenyl guanidine in industrial methylated spirits solvent. Diphenyl guanidine is a water-insoluble medium. Therefore the inclusion of EP '658's indelible ink in the method of WO '931 meets the limitation of dissolving a water-insoluble medium in a first solvent to form a first mixture. WO '931 further references a composition of DNA in buffer, but lacks a teaching of the specifics of such a composition. One having ordinary skill in the art would have been motivated to look to the prior art for teachings of a composition for marking objects comprising DNA in buffer. Lebacq discloses a marking liquid comprising DNA in buffer in col. 6, lines 10-28. Lebacq teaches that its DNA marking liquid further comprises a surfactant (Tween 20). Use of a surfactant in WO '931 would meet the limitation of mixing a nucleic acid solution with an intermediate solution to form a second

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mixture, whereby the intermediate solution increases the miscibility between the first mixture and the second mixture. It would have been obvious to have used a surfactant in the DNA/buffer composition of WO '931, as taught by Lebacq, with the expectation of improved wetting. It is further noted that diphenyl guanidine is an inert medium and is not deteriorative to the article being marked.

As to claims 8-10, Lebacq discloses that it is known to use either natural or synthetic nucleic acids in a marking liquid, including a synthetic vector or nucleic acid fragment (col. 4-5).

Allowable Subject Matter

3. Claims 2-3 and 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or fairly suggest the claimed method of marking a solid article or substance using the method of claim 1, whereby the water-insoluble medium is a polymeric substance or whereby the intermediate solution is a semi-polar solvent.

4. Claims 11-18 are allowed. The prior art does not teach or fairly suggest a method of marking a water insoluble liquid comprising the steps of: mixing a dissolved nucleic acid in aqueous solution with an intermediate solution to form a second mixture, then mixing the second mixture with a water insoluble solvent to form a homogeneous third mixture, and then mixing and marking the water insoluble liquid with the third mixture, such that the intermediate solution increases the miscibility between the second mixture and the water insoluble solvent.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Botros et al. (US 5,498,283) is cited for its teaching that diphenyl guanidine is not water soluble (col. 1, lines 44-47).

Butland (US 5,599,578) is cited for its teaching of mixing a visible ink (many of which are known to be water-insoluble) and a DNA taggant solution together to mark a solid object.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kirsten C Jolley
Primary Examiner
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